

North Hampton

24457

A002(909)

Bridge replacement on US 1
over (former) Pan Am RR and
realignment of North Roads (east and west)

US 1 / North Road (west) Circa 2009

Review of North Road (East) alternatives

June 17, 2020

North Hampton 24457 – Bridge Superstructure Replacement

Agenda

- **Location**
- **Background**
- **Existing Conditions**
- **Public Hearing**
- **Public Hearing Feedback**
- **North Road (E) Alternatives**
- **Comments, Questions and Concerns**



Background

- [US Route 1 Corridor Management Study \(2000\)](#)
 - Recommends realignment of North Road(s)
- Project programmed as a Bridge Rehab/Replacement
- [Public Officials Meeting 3/9/2015](#)
 - Concern from stakeholders about both North Rd approaches; Crash history; Poor sight distance; Dangerous.
- [Project incorporates North Road approach work 10/19/15](#)
- [Public Informational Meeting 5/24/2017](#)
 - No consensus on 2.5 week closure vs. long-term phased approach on US 1
 - Concern about traffic on minor roads, loss of business revenue
- [Public Hearing 10/18/2018](#)
 - Opposition to impacts to open space for North Road (east) realignment.
 - Property owner (Hale), abutters (Rhoades and Luv) and town voiced concerns
 - Design tasked with looking at other alternatives



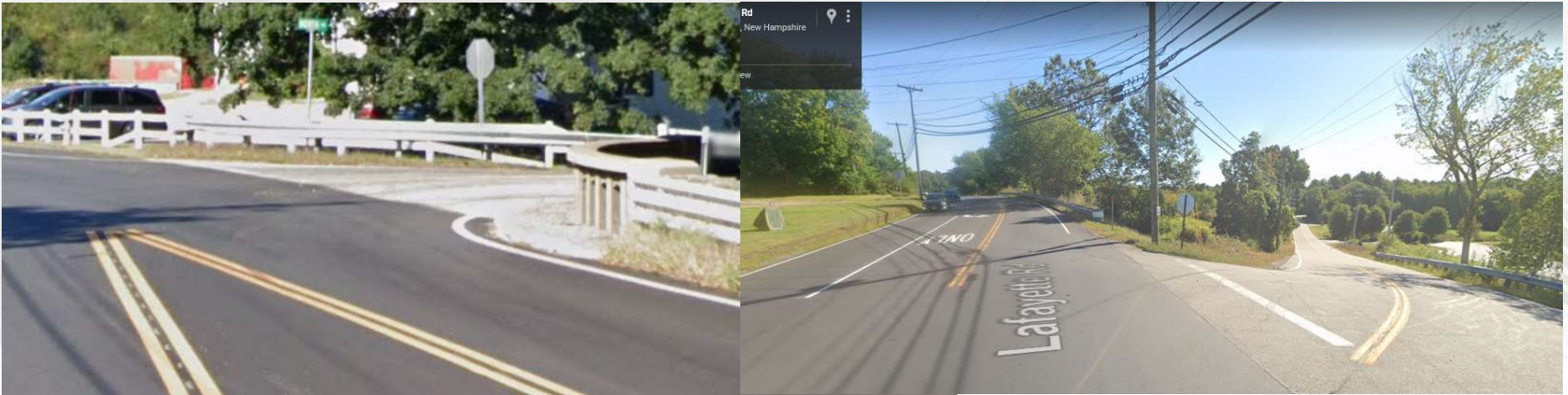
Location



North Hampton 24457 – Bridge Superstructure Replacement

Roadway Existing Conditions

- **US Route 1 – Typical 2-12-10-12-2**
 - Minor Urban Arterial carrying 18,000 vehicles per day; Posted 45 mph
 - Two Way left turn lane; No shoulders
- **North Road – Typical 11-1**
 - Local Road carrying 1340 VPD (east) 970 (west); Posted 30 mph
 - Safety concerns
 - Skew and slope of the intersections create poor sight distance
 - High traffic volumes on US 1 contribute to crashes.
 - From 2007-2017
 - 13 crashes (West); 9 Crashes (East)



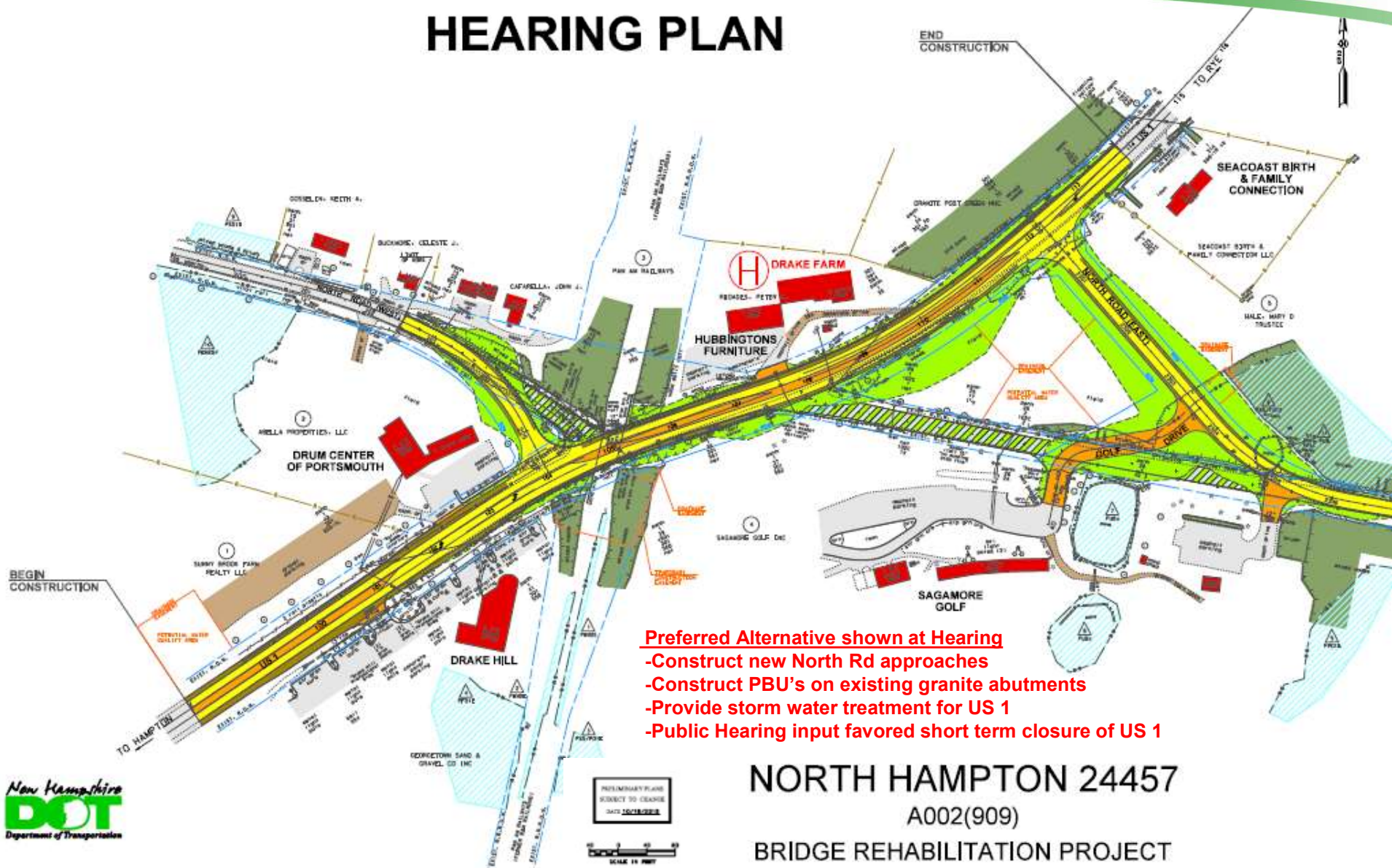
North Hampton 24457 – Bridge Replacement

Bridge Existing Conditions

- Deteriorating –Span 40' – Width 34'-47"
- Constructed 1936; designed by Robert Prowse; Red listed. #28 (2016)
- **Bridge Superstructure and Deck** - Multiple areas of cracking, leaking, spalling, delamination, and exposed rebar.
- **Bridge Rail** - Concrete rail on the east side of the bridge is failing
- **Bridge substructure** includes the stone abutments from the 1900 bridge that it replaced.
- The granite block abutments are in good condition and will be retained.



HEARING PLAN



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Public Hearing

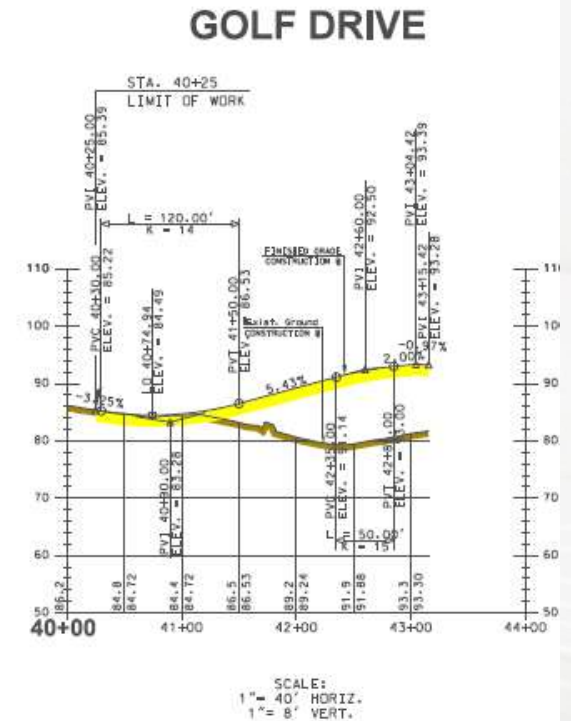
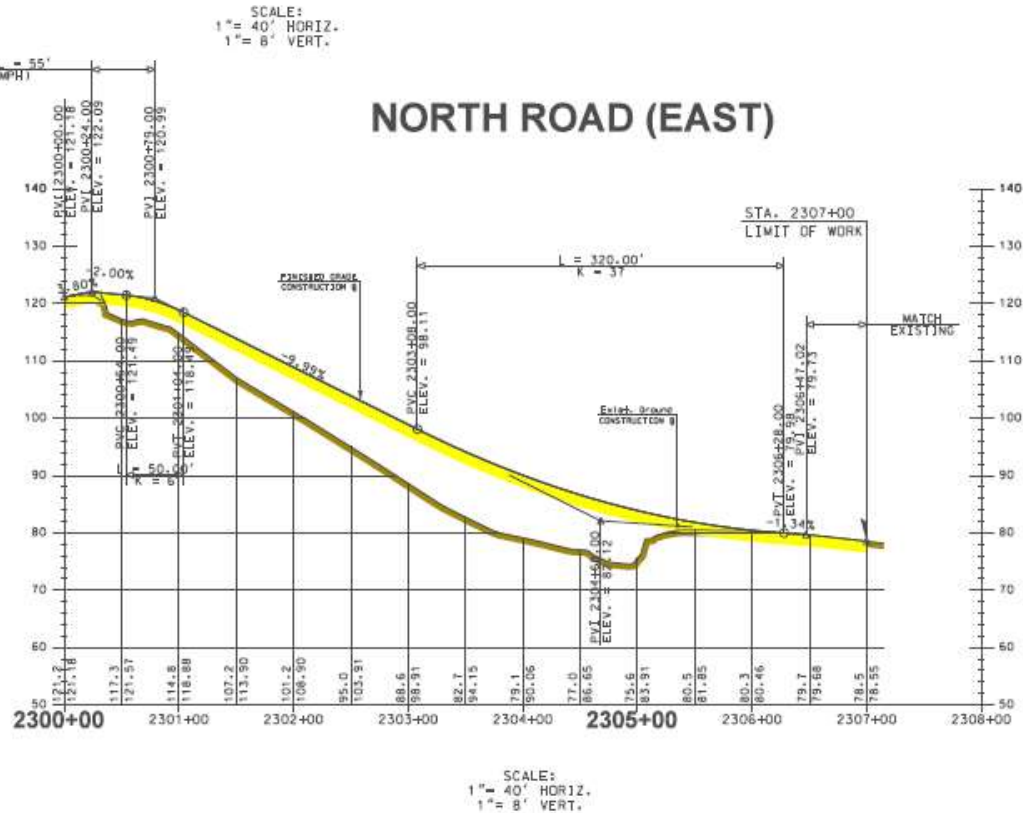


North Road East relocation shown at Hearing

- Creates panel for driver to wait for gap in traffic
- Provides intersection sight distance for left and right turn movements
- Allows for reasonable drive approach for Sagamore Golf
- Provides storm water treatment for US 1

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Public Hearing



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Public Hearing Feedback

**Request that intersection remain unchanged
and a Traffic signal be installed**

Intersection does not meet signal warrants presently and
will not in the future design year



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Public Hearing Feedback



North Road (E) proposed realignment location (as shown at Public Hearing) looking west, from North Road (E)

Stake holders at the Public Hearing raised concerns, specifically
Impact to open space along US 1 along the corridor

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North Road East Relocation Alternatives

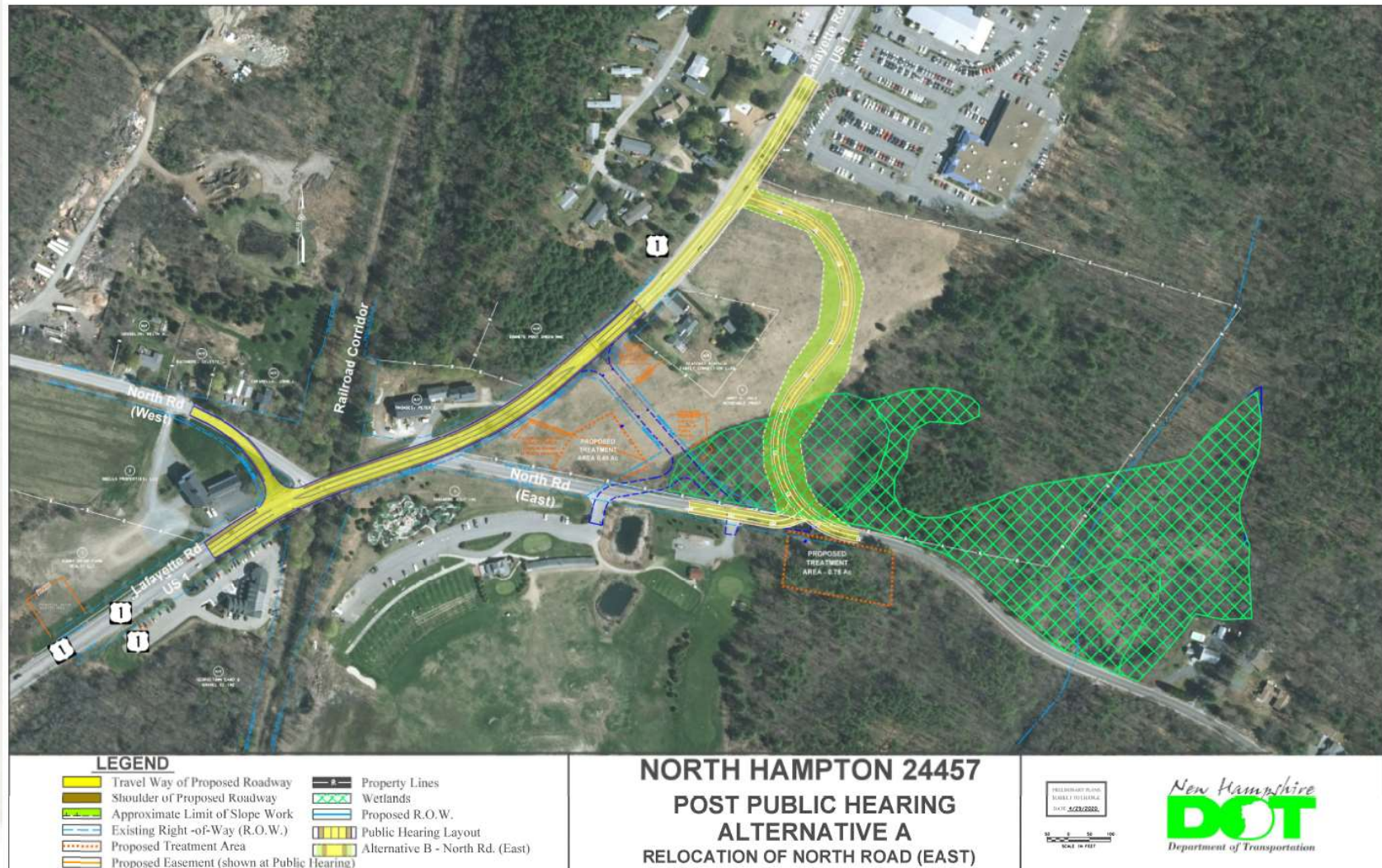
- Conceptual alternatives were developed to minimize impacts to open space
 - Alternative A – Balance between cost and open space
 - Alternative B – Maintains maximum open space
 - Alternative C – Maintains maximum open space



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North Road East Relocation Alternatives

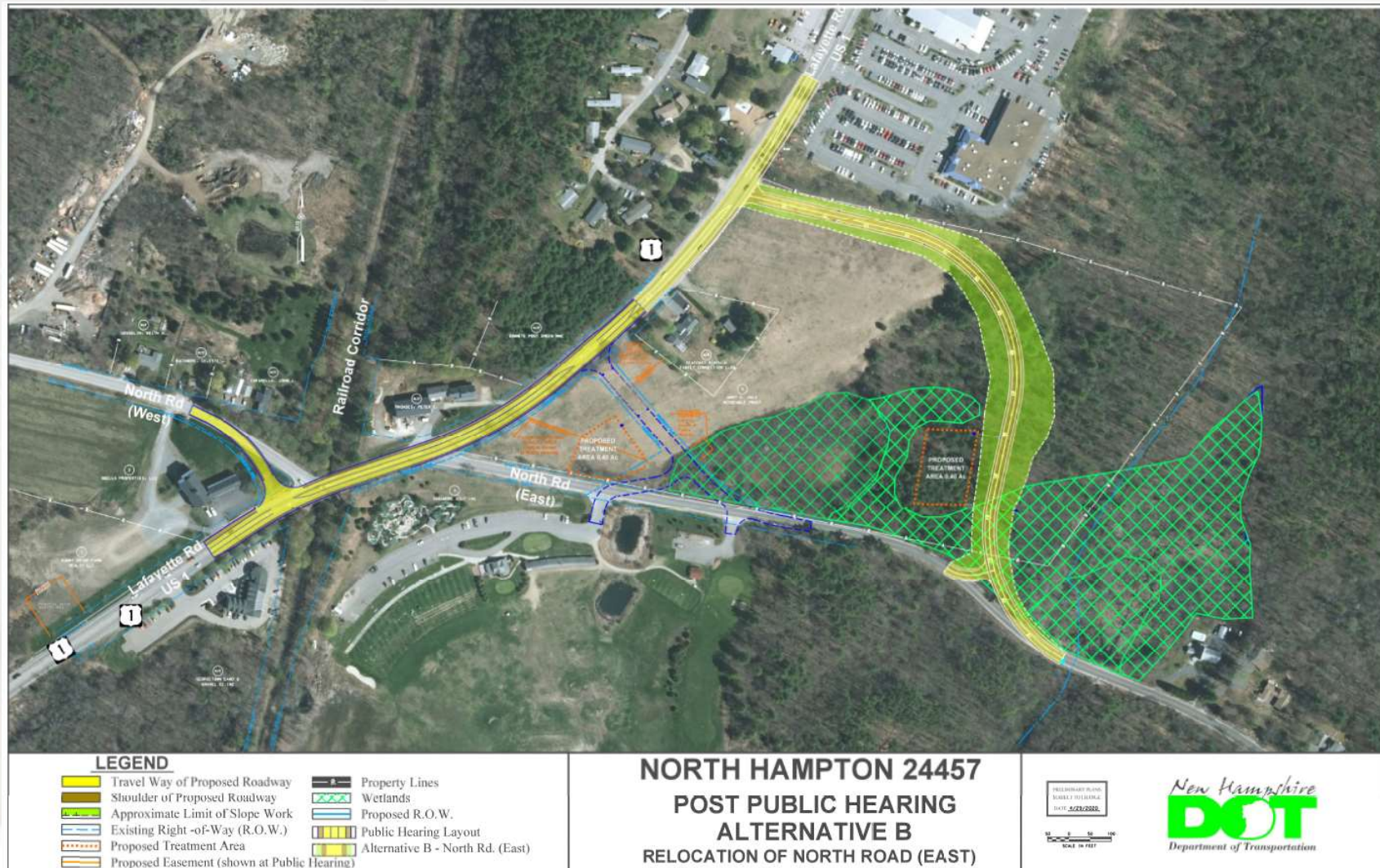
North Road (E) Alternative A



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North Road East Relocation Alternatives

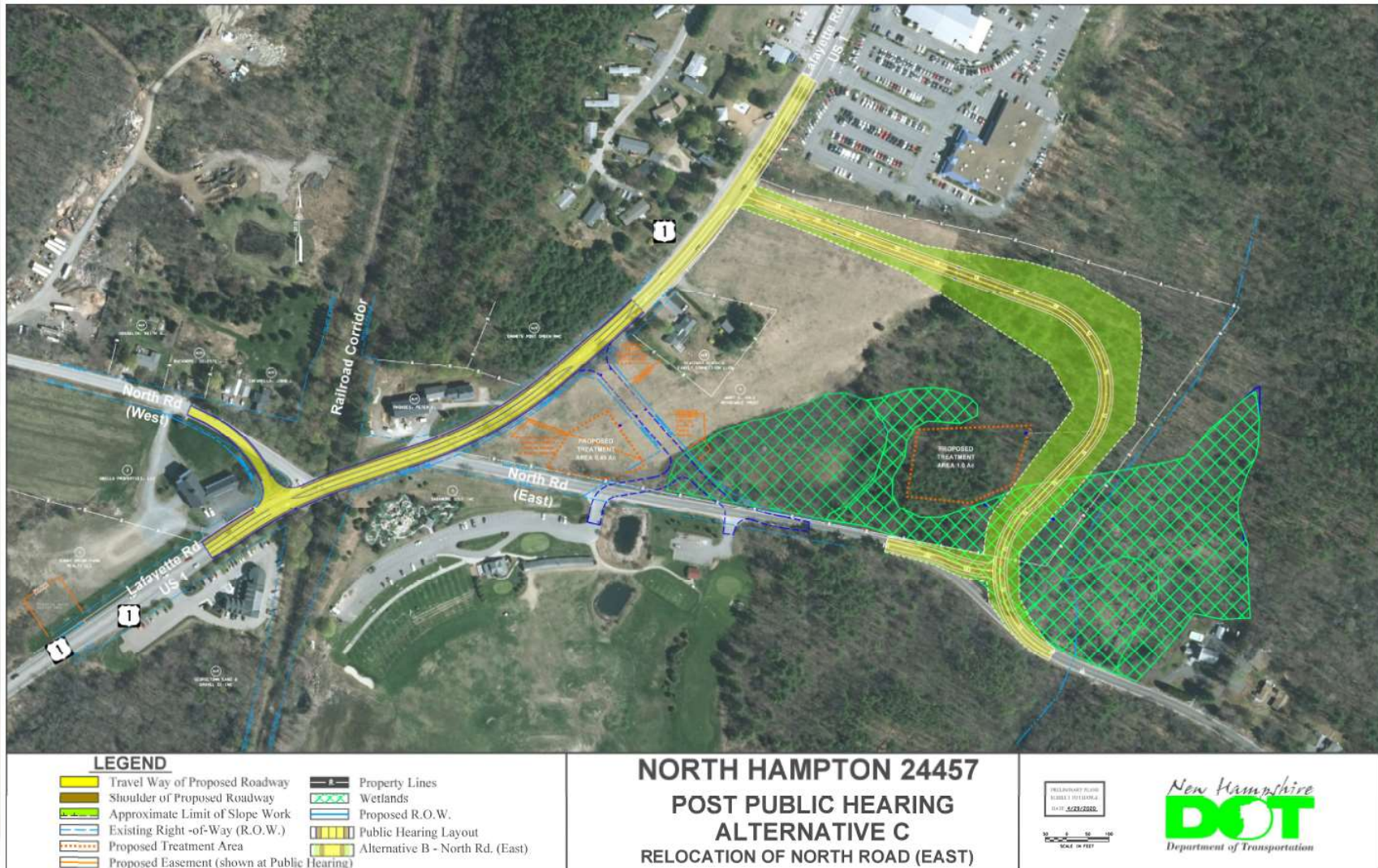
North Road (E) Alternative B



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North Road East Relocation Alternatives

North Road (E) Alternative C



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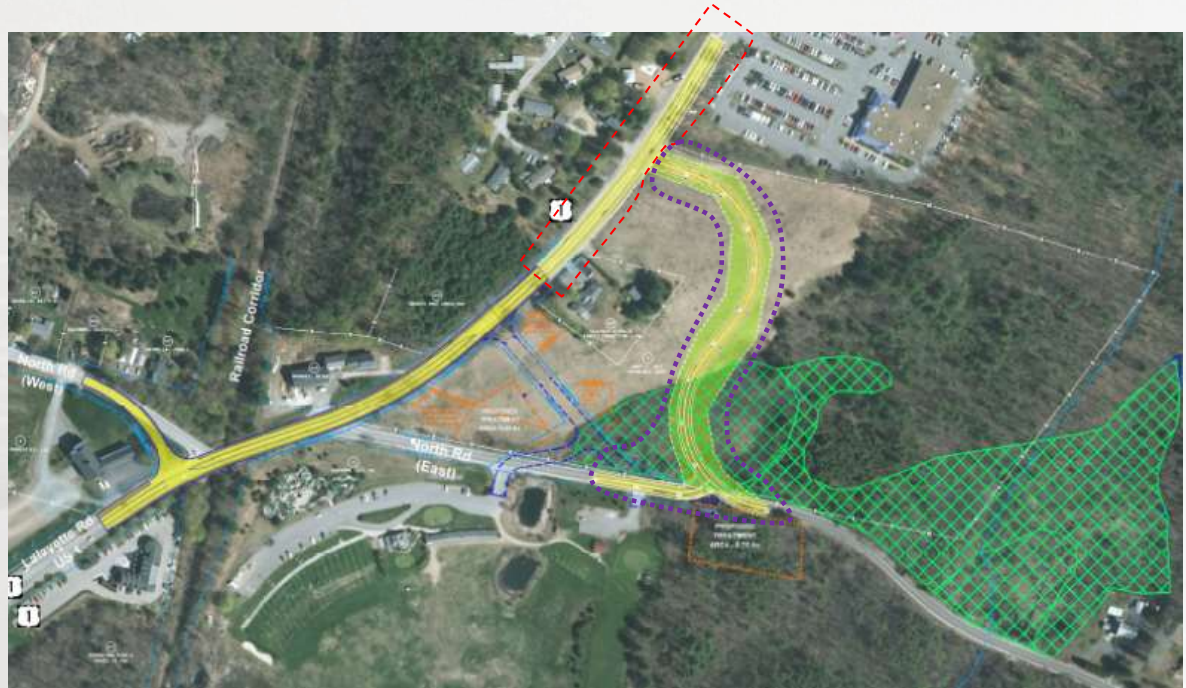
North Road East Relocation Alternatives

Alternatives Estimate Cost Breakdown

Estimated Construction Cost
(North Road (E) only)

Estimated Construction Cost
(US Route 1 only)

Quantities and estimate
based on items calculated
from preliminary design
layout for each alternative



Estimated Wetland Impact Costs

Impact between slope lines shown at \$250,000/Ac.

Stormwater Treatment Costs Quantities and estimate based on items
calculated from treatment design review for each alternative

Estimated ROW Acquisition Costs

Area assumes a 50-foot ROW for new roadway at \$18,000 / Acre

North Road East Relocation Alternatives

North Hampton 24457				
North Road East (NRE) Alternative Matrix				
Consideration	NHDOT Proposed NRE Only	Alternative A	Alternative B	Alternative C
Estimated Construction Costs (NRE)	\$ 408,950.00	\$ 497,150.00	\$ 1,004,125.00	\$ 1,163,750.00
Estimated Construction Costs (US Rte 1)		\$ 230,000.00	\$ 230,000.00	\$ 230,000.00
Estimated Wetland Impact Cost (\$250,000/A)	\$ 77,500.00	\$ 150,000.00	\$ 145,000.00	\$ 217,500.00
Estimated Stormwater Treatment Cost	\$ 40,450.00	\$ 157,500.00	\$ 168,125.00	\$ 208,790.00
Estimated Total Build Cost	\$ 526,900.00	\$ 1,034,650.00	\$ 1,547,250.00	\$ 1,820,040.00
Additional Cost to current NRE proposal (Public Hearing)	\$ -	\$ 507,750.00	\$ 1,020,350.00	\$ 1,293,140.00
Estimated ROW Impacts	Permanent: 0.80 A Temporary: 0.44 A Treatment: 0.50 A Total: 1.74 A	Permanent: 1.26 A Temporary: 0.68 A Treatment: 0.50 A + 0.50 A Total: 2.94 A	Permanent: 1.83 A Temporary: 1.60 A Treatment: 0.50 A + 0.50 A Total: 4.43 A	Permanent: 2.06 A Temporary: 2.1 A Treatment: 1.0 A + 0.50 A Total: 5.66 A
Estimated ROW Costs	\$20,000-\$30,000	\$40,000-\$50,000	\$55,000-\$70,000	\$70,000-\$90,000

24457 Alt. [Matrix.pdf](#)

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North Road East Relocation Alternatives

North Road (E) alternatives layout

- The matrix was developed to compare the construction cost, impact and concerns for each alternative.
- Cost for Wetland impact, Stormwater Treatment are part of the totals construction totals shown.
- The cost for the current North Road (E) relocation, as shown at the Public Hearing, is \$550,000~

Concepts	Construction Cost	ROW Acquisition	Town Match
• Alternative A	\$1,100,000	\$50,000	\$ 600,000
• Alternative B	\$1,600,000	\$70,000	\$1,120,000
• Alternative C	\$1,900,000	\$90,000	\$1,440,000

THANK YOU



North Hampton Railroad Station

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